

cultivation (page 28). Allan suggests that the percentage of cultivable land is very commonly over-estimated; he acknowledges the considerable practical difficulties in arriving at a useful estimate of the cultivable percentage and outlines the procedures which he adopted to avoid these difficulties. Of the land that is cultivable, some can sustain permanent or near-permanent cropping while some can be cultivated only for a year or two each twenty years. Allan defines these variations in terms of what he calls the *land-use factor*. If a single plot can be cropped every year without deterioration, the land-use factor is 1; on the other hand if twenty plots have to be used in succession before the earliest of these can be re-used without causing damage to the land, then the land-use factor will be 20. A further variable is the *cultivation factor*, the acreage of land cultivated per head of the population at any particular time. This of course varies depending on the qualities of the land, the climate and on the opinions of the producers about the size of the harvest that they require. As Allan points out, subsistence agriculturalists tend to cultivate an area large enough to provide an adequate amount of food even in a poor year. If they were to cultivate only enough to provide for an average or a good season, obviously there would be great hardship in bad years. The amount of land under cultivation per head of the population is established by field measurement and sampling. Once these data have been collected the total area of land required per head of the population can readily be calculated by the following formula:

$$\frac{100 \times \text{Land-use Factor} \times \text{Cultivation Factor}}{\text{Cultivable Percentage}}$$

All this is, of course, relatively obvious. The virtue of Allan's exposition is that he makes a point of establishing a practicable procedure and a straightforward terminology.

I am not qualified to judge the extent to which Allan's approach is valuable to agricultural scientists. But I can say without hesitation that anthropologists at least can learn much from it. In the past few years there has been an increasing amount of discussion among anthropologists of the relationship between the descent system in a society and the ecological context. Dr. Mervyn

Meggitt, for example, in an important and stimulating recent monograph on the Mae-Enga of New Guinea* relates variations in the descent systems of the New Guinea highlanders to variations in the availability of land. Hypotheses of this sort would, I think, from now on be best presented and tested using Allan's terminology and procedures. This might in practice turn out to be too time-consuming and complicated, too far from the main concerns of anthropologists to be practicable. But it would certainly be worth attempting.

The book is far more than a handbook of procedures and a survey of variations in agricultural systems. In Part III, Allan discusses the land usage of hunters and gatherers and of pastoralists; here the material is far from satisfactory. Very little detailed information about the ecology of such peoples has yet been published and further research is urgently needed.

The fourth and final section of the book is devoted to a discussion of change and development. Here there are interesting discussions of colonial agricultural policy and a valuable series of assessments of particular improvement schemes. On the whole the picture is disappointing. The proportion of failures is very high. Perhaps now that the schemes are being planned and administered by the people themselves the chances of success will improve. If books like Allan's are widely read, this should help.

JAMES WOODBURN

CHILD GUIDANCE

Pringle, M. L. Kellmer. *Deprivation and Education*. London, 1965. Longmans. Pp. 311. Price 42s. 6d.

DR. KELLMER PRINGLE was for twelve years psychologist in charge of the Department of Child Study in the University of Birmingham. This volume brings together the reports of studies she and her collaborators carried out there into the effect of early separation and institutional care upon the development of language and of other intellectual, social and educational capacities of children. The investigations showed

* Meggitt, M. J. *The Lineage System of the Mae-Enga of New Guinea*. 1965. Oliver & Boyd. See THE EUGENICS REVIEW, 1965, 57, 87.

serious impairment of language attributable to a number of interacting forces. Deprived children seem to have especial difficulty in learning in a group; they need to be in small classes, with the closest possible contact with the teacher, particularly in the nursery years.

On the disputed question of emotional adjustment, Dr. Pringle arrived at the same conclusion as those who have found that children separated early from their parents did not necessarily show emotional damage in consequence: much depended on whether the child continued to have regular contact with his relatives. Those children who were most disturbed emotionally had in many cases been abandoned by their parents, who may well have been psychopathic. In examining this problem the influence of genetic factors has to be reckoned with, but unfortunately this was not practicable in Dr. Pringle's studies.

In a final chapter Dr. Pringle reviews the measures that might be taken to prevent the often crippling effect of upbringing in a disorganized home or large impersonal institution. She advocates better education of parents and teachers in regard to the children's psychological needs, speedier service to help families in times of crisis and nursery school facilities designed to compensate for what is missing in the child's home.

In the field of secondary prevention Dr. Kellmer Pringle looks forward to the greater powers given to the children's departments by the Children and Young Persons Act, 1963, to provide long-term support to families in difficulties, and more expert and individual care for children with serious emotional or other handicaps. Dr. Kellmer Pringle in her new role as Director of the National Bureau for Co-operation in Child Care, has a unique opportunity to urge and encourage the application of her findings and recommendations.

HILDA LEWIS

GENETICS

Peacocke, A. R. and Drysdale, R. B. *The Molecular Basis of Heredity*. London, 1965. Butterworth. Pp. viii+180. Price 37s. 6d.

THIS BOOK REPRESENTS the successful outcome of a collaboration between a chemist and a microbiologist. Such a collaboration between

two different disciplines often results in a disjointed publication, but in the present text the work is skilfully blended together.

The early chapters review the evidence for the importance of nucleic acids in heredity, showing the association between chromosomes and DNA. This theme is developed by the direct evidence obtained from experiments with micro-organisms showing that nucleic acid can carry genetic information. These experiments are described lucidly and the logical development of the subject makes exciting reading.

In part two of the book the stress is placed on the molecular and structural aspects of heredity. Usually the reviewer when faced with structural aspects of nucleic acids encounters a mental block. These authors, however, have successfully overcome his natural aversion to this subject. The structure of RNA and DNA and their species variations are simply explained, as is the structure of chromosomes.

The third part of the book is devoted to a correlation between structure of the nucleic acids in relation to their biological function. This is obviously the section in which the two authors have combined their different disciplines. The final chapter, dealing with the genetic code, is written in an interesting way, in that a number of questions are asked at the beginning of the chapter regarding the nature of the code. Evidence is then produced in answer to these questions; this makes the reader once again see the problem through the eyes of the researcher into this fascinating field.

The book is well referenced and for a newcomer to the field, the glossary of biological terms may be of some value. At the price this is a useful book for students, although inevitably when dealing with such a subject, the book will rapidly become dated.

D. A. WILLOUGHBY

SEX

de Rachewiltz, Boris. *Black Eros: the sexual customs of Africa from prehistoric times to the present*. London, 1964. Allen and Unwin. (Translated from the Italian *Eros Nero* by **Peter Whigham**.) Longanesi, Milan, 1963. Pp. 329. Price 63s. in UK only.